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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,088	10/29/2003	Sheau-Hwa Ma	FA1062USNA	6645
23906 7590 06/08/2007 E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			EXAMINER SASTRI, SATYA B	
			ART UNIT 1713	PAPER NUMBER
			MAIL DATE 06/08/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/696,088	Applicant(s) MA ET AL.	
	Examiner Satya B. Sastri	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23, 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to amendment filed on April 23, 2007. Claims 1-23, 25-27 are now pending in the application.
2. In view of the amendment and arguments presented, the rejections over prior art to Briggs et al. (US 5,360,644) are withdrawn. The provisional rejection of claims 25, 26 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 20 of copending Application No. 10/696,093 (published as US 2004/0115357 A1) is moot in view of the abandonment of the copending application. Additionally, new rejections are set forth in this office action.
3. It is noted that the status identifier for claim 16 is incorrect.

Claim Objections

4. Claims 2, 12 and 23 are objected to for the following reasons:

In claim 8, line 1, the word "wherein" should be inserted after claim 1.

In claim 12, line 2, the letter s should be deleted from "equivalents" to make it in singular form.

In claim 23, lines 2-3, kilogram and 1.0 pound should be in singular form.

Appropriate corrections are requested.

Previously Cited Statutes

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is unclear if the crosslinkable acrylic polymer is different from the acrylic copolymer having specific acid content present in the composition. The acrylic polymer reads on acid functional acrylic copolymer.

8. Claims 1-16, 18, 19, 21-23, 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartsotti et al. (US 4,55,331).

Prior art to Barsotti concerns coating compositions comprising an acrylic binder, a rheology control agent comprising colloidal silica and a crosslinking agent (abstract). The colloidal silica may be either hydrophilic or hydrophobic (col. 2, lines 7-11, lines 23-28, lines 41-46 and column 13, claim 3). The acrylic resin may include hydroxyl groups and carboxylic acid groups in

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amounts of 0.1 -5% by wt. of polymer (col. 3, lines 38-63). Acrylic monomers and hydroxy functional monomers are exemplified in col. 3-4, bridging paragraph and col. 4, lines 13-18.

The MW of the polymer may range from 500-20,000 and T_g may range between -20 and +25°C. (col. 4, lines 28-31). Working examples disclose coating compositions comprising one or two acrylic polymers with melamine crosslinking agent and low solvent content while the disclosure teaches melamine or polyisocyanate as crosslinking agents (col. 3, lines 33-37).

The compositions may further include an acid catalyst in amounts of 0.1 to 2% by wt. by of binder (col. 3, lines 43-44) and pigments (col. 6, lines 30-39). The coating compositions may be cured at 65-140°C and are useful for automotive surfaces (col. 7, lines 27-55).

The prior art does not exemplify coating compositions comprising (a) a hydrophobic silica and (b) acrylic resin comprising 2-12% acid-containing monomer content.

The prior art discloses explicitly that colloidal silica may be hydrophilic or hydrophobic. Additionally, the disclosure teaches that the acrylic polymers may include an acid content up to 5% by wt. Given this teaching, it would have been obvious to one of ordinary skill in the art to formulate coating compositions consisting of a crosslinkable acrylic polymer comprising up to 5% by wt. of acid content, hydrophobic silica and a crosslinking agent and thereby arrive at the presently cited claims.

With regard to the polydispersity value recited in claim 2, it must within the instantly claimed range because the acrylic copolymer of Barsotti is prepared by the substantially similar process to that of claimed invention.

With regard to claim 16, it is noted that Barsotti is open to use of a combination of acrylic polymers that may comprise 0.1-5% by wt. of acid monomers.

With regard to claim 25, the property improvement recited there in is inherent to the composition that is obvious over Barsotti.

With regard to modifying resin of claim 18, it is noted that a combination of hydrophobic silica with polyvinylpyrrolidone is taught by the prior art (col. 2, lines 41-46). The limitation "modifying resin" as claimed reads on polyvinylpyrrolidone that alters the rheological properties of the coating composition.

9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bartsotti et al. (US 4,55,331) in view of Crawford (US 5,612,415).

The discussion with regard to Barsotti et al. presented above in paragraph 8 is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not disclose the coating composition formulated as a two-pack composition.

The prior art discloses the use of an acrylic binder with reactive function groups that can be utilized in a crosslinking reaction with melamine crosslinking agent. With regard to formulating the composition as a two-pack composition, it is the examiner's position that crosslinkable compositions may be formulated as one-pack or two-pack compositions depending upon the reactivity of the individual components and that that keeping two reactive components in a spatially separate environment is well within the capabilities of one of ordinary skill in the art. For instance, the secondary reference discloses that automotive coatings may be one-component or two-component depending upon the reactivity of the components (column 1, lines 50-57). Thus, it would have been obvious to one of ordinary skill in the art at the time the

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invention was made to formulate the prior art composition to Barsotti et al. as a two pack compositions and thereby arrive at the presently cited claim.

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barsotti et al. (US 4,55,331 referred to as '331) in view of Barsotti et al. (US 6,221,494 B1, referred to as '494).

The discussion with regard to Barsotti et al. ('331 presented above in paragraph 8) is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not disclose the use of reactive oligomers in the coating composition.

Secondary reference to Barsotti et al. ('494) discloses reactive oligomers suitable for use in curable coating compositions. The hydroxyl-containing oligomeric component may be added to an acrylic copolymer derived from styrene, alkyl (meth)acrylate, ethylenically unsaturated acids etc. (column 4, lines 49-67, column 5). The reactive oligomers are suitable for use in automotive paint compositions and provide for low VOC and fast cure rates under ambient conditions (column 1, lines 30-51). In light of such benefits, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include reactive oligomers in the coating compositions disclosed by Barsotti et al. ('331) and thereby arrive at the presently cited claim.

Response to Arguments

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11. The arguments are moot in view of the new rejections presented in response to the amendment filed on 4/23/07.

Action Is Final

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Future Correspondence

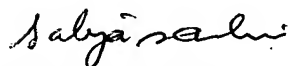
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri whose telephone number is 571-272-1112.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone numbers for the

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organization where this application or proceeding is assigned is (571) 273-8300 for regular communications. The unofficial direct fax phone number to the Examiner's desk is 571-273-1112.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SATYA SASTRI

June 6, 2007



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